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INNOVATE UK'S
PLAN FOR ACTION

#IDEAS MEAN BUSINESS

Introducing the Young Innovators 2021/22

A PARTNERSHIP BETWEEN

Prince's Trust

UKRI Innovate UK KTN

Foreword

Indro Mukerjee
CEO, Innovate UK

As CEO of Innovate UK, the UK's innovation agency, I'm delighted to introduce you to the winners of the 2021 Innovate UK Young Innovators Awards!

We are very proud of our Young Innovators programme which celebrates the UK's innovation potential in the 18-30 age group. Our programme is operated in partnership with the Prince's Trust, and together we aim to bring energy, entrepreneurial flair and fresh perspectives to today's innovation challenges.

Innovate UK is committed to working to help harness and celebrate the diverse talent we have in the UK which will help us become a global hub for innovation.

Diverse teams, with people from different backgrounds constructively challenging each other, are fundamental to breakthrough innovations. This makes the UK's population diversity a potential competitive advantage, so we will continue to work hard to fully harness this potential.

In celebrating these young innovators' stories, this brochure highlights the various routes into innovation for people of all backgrounds. Our young innovators are relatable role models, inspiring and showing the path to others, as they create economic and societal benefits through innovation – so that we can all see a fairer, more resilient and more productive society.

Our mission at Innovate UK is to **inspire**, **involve** and **invest** in UK business innovation.

Our Young Innovators programme aims to **inspire** new and future generations of young innovators- we want young people to have the confidence to give it a go. We want to **involve** the rich variety of talent across the UK and help businesses benefit from diversity and inclusion, so that we can **invest** in high performing, successful innovators who will positively impact our economy and society.

UKRI Innovate UK KTN

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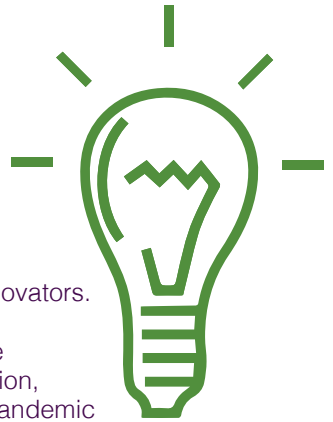
The story so far...



In 2017, Innovate UK and The Prince's Trust commissioned YouGov to carry out independent research with 18- to 30-year-olds who were not in employment, education or training, or in a form of insecure or under-employment. The report explored attitudes towards innovation and entrepreneurship, and found that:

- 2 in 5 young people surveyed (39%) had ideas for products and services they think they could sell
- 54% would like to run their own company
- 82% view the business sector as difficult to access
- only 8% would describe themselves as entrepreneurial.

In response to the report's findings, Innovate UK launched a campaign in partnership with The Prince's Trust to look for the next generation of innovators: Ideas Mean Business. The campaign was launched at a pop-up coffee shop in London. There, Deborah Meaden, 19-year-old millionaire entrepreneur Ben Towers, and business ambassadors exchanged coffee for innovative ideas and provided attendees with business advice. The campaign then went on the road, sharing advice with aspiring young innovators in Cardiff, Birmingham, and Newcastle.

Over 12,000 people got in touch to find out more about the young innovators' programme. 150 attended 11 regional innovation events across the UK and online, where they received innovative business advice and guidance on applying for support through the programme.

24 winners were selected from across the country to receive:

- one-on-one coaching from an Innovate UK EDGE Innovation Champion
- funding to support the development of their idea
- an allowance to cover living costs

In 2020, new findings from Innovate UK showed that half of the young people in the UK think their age is a barrier to business success, with nearly a third lacking the confidence they need to turn their innovative idea into a reality.

The findings were released in March with Innovate UK, part of UK Research and Innovation (UKRI) announcing a £2.2m, Young Innovators Programme in partnership with The Prince's Trust.

To support the awards, Innovate UK KTN organised online competition briefing events attended by over 8,000 young innovators.

The pandemic has significantly impacted young people in the UK due to well documented challenges like disrupted education, declining mental health and delayed careers. However, the pandemic also triggered a surge in entrepreneurialism, resulting in a third of 18- to 34-year-olds wanting to launch an independent enterprise. This appetite for innovation could also be seen in the unprecedented engagement with the Young Innovators programme, which received 1,300 applications over the past two years. Following a rigorous assessment process, 64 Young Innovators were awarded in 2020 and another 63 in 2021.

As a result, by 2023, the Young Innovators programme aims to have awarded more than 200 young people from diverse backgrounds. Diversity and inclusion are at the heart of the programme which forms an integral part of Innovate UK's 2021-2025 Plan for Action for UK Business Innovation and its commitment to "increase the diversity of upcoming innovation talent and make innovation support more visible, accessible, and inclusive to all."

In addition to the Young Innovators awards, in August 2020 Innovate UK KTN launched the #IdeasMeanBusiness webinar series, partnering with UK Black Tech, Foundervine, UltraEducation, Like Minded Females, St John's Innovation Centre, Nicholas Himowicz, Spencer Ayres, and CareerEar. The series, designed to provide practical advice, expert knowledge, and tools for young people, has been viewed by over 2,000 people.

Innovate UK KTN also organises twice yearly bootcamps specifically tailored to support the journey of Young Innovators award holders as well as events to foster peer-to-peer networking and best practice sharing.

Moving forward, we will continue to support and nurture young people. We look forward to engaging with the new cohort, the growing alumni network, and the wider community to inspire new generations of diverse innovators.

Together, we will shape a future beyond limits.

Regional Winners

Mendy Bala
Michael Bryan
Chloe Foster
Lasse Melgaard
Penny Morton
Rachel Parker
Matthew Walker

Yuru Guo
Charlotte Ripley

Adam Derradji
Ella Hopkin
Ben White

Aurélie Fontan
Sam Whetton

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Angel White

Mark Sutherland

Peter Griffen
Mohammad Sultan

Scotland

The Young Innovators programme will enable me to create a bigger, more accessible platform

Mendy Bala

SUSTAINABILITY & CIRCULAR ECONOMY

Mendy Bala likes to smell good – and she likes saving money. Her business, Scented's Signature, aims to help people find their signature scent at an affordable price.

Sustainability is also at the heart of her business model. "Often, sustainable living is associated with a higher price point," Mendy says. "With our portable, reusable and recyclable packaging, people can shop more sustainably."

Mendy has had a positive response from initial market testing of the product. But she recognises that her business is at the starting line when it comes to creating a customer base. Her ultimate goal is to form partnerships with other perfume houses and small businesses to generate more jobs. She would also like to create branded household scent products and expand into international markets.

Michael Bryan

BIOTECHNOLOGY

When he was eight, Michael Bryan lost his father to Parkinson's. Later, having developed an interest in biotechnology, Michael set about creating an app using facial recognition to monitor the disease. Even with support from the National Health Service (NHS), it was hugely time-consuming, taking three years to collect the data required. This is a common stumbling-block for small biotech firms – one that Michael now aims to help them address through his Lugo product.

Lugo will help biotech clients to gather the data they need. It will work with charities and health organisations to involve and empower patients. In return for sharing data, patients receive a share of client fees, and frequent updates to heighten their sense of ownership in the process.

Michael is a medical student at the University of Edinburgh and also a carer for his mother, who has severe rheumatoid arthritis. Joining the Young Innovators programme will allow him to spend at least two days a week focusing on Lugo. "I genuinely believe it will make the difference between a successful business and one regretfully stopped in its tracks," he says.

What I learn will continue to stretch me and allow me to apply the lessons to my medical training

Chloe Foster

SUSTAINABILITY & CIRCULAR ECONOMY

At a personal level, Chloe Foster aims to follow sustainable practices every day. At work, through her business ANEC (Applied Negative Emissions Centre), she supports businesses to do the same. She draws from her background in sustainable project delivery and from her degree in international relations at King's College London, where she studied environmental policy.

ANEC helps organisations to reach their decarbonisation goals. It specialises in the stubborn emissions that can't be eliminated by traditional energy efficiency and behavioural change methods. "Carbon removal can help organisations take back control of their residual emissions by implementing solutions onsite or in their local region," Chloe says.

The business has produced carbon removal reports for a range of businesses and local authorities. It's now seeking sites to implement its technology – including a carbon capture garden at the Museum of Edinburgh.

I'm looking forward to learning more about investment and how to create a community that will follow our journey

It's an amazing network of Young Innovators – all the excitement and great ideas are so contagious!

Lasse Melgaard

SUSTAINABILITY & CIRCULAR ECONOMY

As a microbiology student at Aberdeen University, Lasse Melgaard was an avid dumpster-diver. He often found ripe fruit in supermarket bins. He began to experiment with home brewing of overripe bananas, mangoes, and blueberries. Lasse realised that making wine in this way, and distributing it locally, meant the product was carbon negative while fighting food waste.

With his business partner, Elliott Martens, Lasse launched Two Raccoons with a wine tasting event attended by 200 people. Since the company works with food surplus, every batch is unique. "I believe it's fun for the consumers to try a limited-edition wine that we might never make again," says Lasse.

The venture continues a long tradition of repurposing waste for Lasse. In his hometown in Denmark, he was part of a project that turned spent coffee grounds into gourmet mushrooms. He then worked in a mushroom research centre in the United States. Now Two Raccoons is repurposing waste from its winemaking process to grow mushrooms and increase local food resilience.

This award has given me the confidence and financial support to turn my idea into a reality

Penny Morton

DESIGN

In the UK, women represent only 4% of all tradespeople. Penny Morton is one of them, and she is determined to empower more women with practical skills.

A Master's graduate in product design engineering from the University of Glasgow, Penny now works as an engineer in a male-dominated workshop. She was also the first female labourer at events construction firm Gallowglass. "These roles, alongside experiences of renovating my flat, have highlighted to me the intimidating culture, misconceptions and lack of female representation and education within the industry," she says.

Penny's company, DIYWomen, runs workshops for women, while engaging with employers to push for more diverse and inclusive workforces. "My dream is to provide a safe space for women to learn practical skills," she says. "I would also love to occupy a retail space which sells sustainable products made by women, and connects the public with the process, materials, and people behind the products."

Rachel Parker

FOOD & DRINK

While in high school, Rachel Parker was advised to follow a strictly gluten-free diet. The limited products available pushed her to cook and bake her own. Often, guests didn't realise her cake buffets had been created entirely without gluten. Today, the quality of gluten-free products has improved, but as Rachel points out, "it remains difficult to purchase quality, artisan products we can be confident are free from cross-contamination."

In response, Rachel is setting up her own bakery to produce luxury artisan products in dedicated gluten-free premises. She says: "I want to share with as many people as possible that moment of overwhelming joy I felt when I visited a 100% gluten-free patisserie in Paris."

Profits will be used for social good. The bakery will run an employability programme to combat the disability work gap. Again, this is inspired by Rachel's own life: her autism diagnosis at the age of 25 helped to explain in retrospect some challenging times she had experienced in education and employment.

I want to ensure I am setting myself up for success on a personal level as well as a business level

Young Innovators offers the perfect balance of financial support and business guidance

Matthew Walker

FOOD & DRINK

From bartering at the local car boot sale to teaching himself A-level business studies, Matthew Walker was always destined to be an entrepreneur. Throughout university he pestered friends with his latest business ideas. When he raised the concept of developing mixers to pair with tequila, they were finally impressed.

“For too long now, tequila has been written off as just a shot,” says Matthew. His company, Savora, created its first product, a zesty lime and sweet agave mixer, in April 2021. In the first bar to stock it, Teuchters Landing in Edinburgh, it became the best-selling speciality summer cocktail. It went on to win a Great Taste Award. A second mixer, vibrant orange and fiery ginger, has just been launched.

Joining the Young Innovators programme will enable Matthew, who recently qualified as a chartered accountant, to devote more time to the business. His main priority is networking – to get his products in front of distributors and buyers for larger chains and supermarkets.

Northern Ireland

I felt the Young Innovators Awards would let me see if I'm mad or not for attempting this – they seem to be a bit mad too

Mark Sutherland

AGRI-FOOD

Farming started as a hobby for Mark Sutherland. He became so enthusiastic that he left his job in Belfast and went to study at the Greenmount campus of the College of Agriculture, Food and Rural Enterprise in Antrim. On completing his studies, he set up a vertical farming business, Green Shed Organic.

Mark's ambition is to end the seasonality of food production, with the aim of improving food quality and the environment. His innovation is a year-round production of high-nutrition crops, which the business will process into health foods. The business is now finalising recipes and seeking a food processing site.

While he is in his element growing produce and talking to customers, Mark is aware he lacks administrative skills and hopes the Young Innovators programme can help him in this area.

North East England

I cannot wait to grow together with my business

Yuru Guo

FOOD & DRINK

During the first lockdown, Yuru Guo saw social media pictures of the tempting meals people were creating in their kitchens. It inspired her to create an online marketplace for home-cooked food.

Yuru sees her platform, Hey! Food is Ready, as an opportunity for refugees, immigrants, stay-at-home parents, and retirees to generate an income while sharing their native cuisine. For customers, it offers the chance to enjoy homemade meals locally prepared by their neighbours. Deepening cross-cultural understanding is one of Yuru's goals.

Alongside completing her Master's in entrepreneurship, Yuru developed a prototype for the website and brought her co-founders together to turn it into a reality. The business is now working from Newcastle offices and recruiting its first home cooks from the city. That includes visiting NGOs in search of refugees or immigrants who would like to sell meals via the platform.

Charlotte Ripley

ELECTRONIC SENSORS & PHOTONICS

As a threatened species, bees need all the help they can get. Charlotte Ripley's innovation aims to help beekeepers monitor their hives, even from a distance. Charlotte's product, HiveGuard, will notify the keeper wirelessly via a messaging application if there is a potential threat to a hive.

Charlotte developed an interest in technology and building things while growing up in Newcastle. She studied electronic and electrical engineering at Nottingham Trent University, where she developed a passion for software development, especially in artificial intelligence and machine learning. The idea for HiveGuard was born as her dissertation project. Charlotte's company, Beespoke Protection, now has a software prototype ready to go.

As I'm not from a business background, the Young Innovators programme will help me gain knowledge in all areas

East of England

Sam Hankin

DIGITAL AND CREATIVE

As a computer science teacher, Sam Hankin sees first-hand the rapid adoption of technology in education and its acceleration as a result of the pandemic. Sam's business, Hankin Digital, enables students to keep track of their learning, inside and outside the classroom, while a gamified element allows them to collect digital badges.

"Students are now storing lots of their learning evidence digitally. This can be hard for them to manage, and equally hard for teachers to review," Sam explains.

He has developed a working prototype of the platform and is now looking to scale it up for schools beyond his own. A friend recommended he apply to the Young Innovators programme. Sam hoped the programme would provide useful feedback for his idea and is "excited and completely surprised" to be a winner.

I've had ideas in the past but never done anything with them as I didn't know where to start... now I can finally take these steps and learn from the best!

I'm hoping I can learn from everyone I meet as part of the programme

Ben Meen

INFORMATION AND COMMUNICATIONS TECHNOLOGY

Norwich-based Ben Meen believes technology has the power to tackle the challenges faced by post-pandemic society. "Some of the greatest periods of innovation follow times of upheaval," he says. Ben's platform, WorkLocal, aims to address two related issues. It helps home-based workers discover local pubs, bars, and cafes to work from, and facilitates group working and meet-ups – while at the same time allowing venues to attract much-needed customers.

"I saw that the hospitality sector was struggling after multiple lockdowns," says Ben. "I also saw that many people whose companies had adopted home working as a long-term measure were struggling with the lack of socialisation and those natural watercooler moments that can't be recreated via video calls." The platform is already live in Norwich and London, with more cities and an Android/iOS app in the pipeline.

It was a huge confidence boost to see that the expert judges thought my idea had legs

Jack Peden

ENERGY

Designing parts for a race-winning car, as part of the Red Bull Racing Formula 1 team, was a thrilling experience for Jack Peden. The aerospace engineering graduate also designed his own rocket engine. But increasingly, Jack found this work was conflicting with another lifelong obsession: his concern for the natural world and sustainability.

His business, Druid Technology, combines those two passions. It sets out to make tech chargers obsolete. Druid will create wearable devices that charge themselves by harvesting waste energy, such as body heat. While this type of harvesting isn't new, it has yet to be fully integrated into consumer products.

"Having your devices die on you, finding a wall plug and then waiting to charge them up is quite inconvenient when you think about it," says Jack. His idea is now in prototype and he's looking forward to the Young Innovators programme to enable him to find customers and commercialise the product.

George Terry

SUSTAINABILITY AND CIRCULAR ECONOMY

Creating a smarter water network is the mission of Vysion Technologies, formed by George Terry. Armed with a Master's in Mechanical Engineering, George combined a keen awareness of sustainability with a fascination for the emerging Internet of Things industry. The result is a device that collects and transmits data from water pipeline networks to track leaks. "With 23% of our drinking water never reaching our taps in the UK, it is crucial that this industry sees significant innovation," he explains.

The device is linked to a software program that analyses the data collected, enabling water companies to make critical decisions. Power-saving strategies provide a long battery life, so the product can be used in remote areas without human intervention. Support from the Young Innovators programme will enable George to commercialise the device. He sees potential for Vysion to lead the market in the UK – and then internationally.

Being accepted onto the programme provided a sense of accomplishment, but more important for me was the external validation

North
West
England

Peter Griffen

HEALTH

Growing up in Macclesfield, Peter Griffen was always interested in making things and solving problems. During his product design degree at Brunel University, Peter spent a six-month placement with an art studio near Cork, developing high-end furniture and sculptural pieces.

Peter's innovation is also a piece of furniture, but one with a healthy purpose: a fully-adjustable footstool for patients with lower leg oedema. He created it in response to a request by staff at Royal Brompton Hospital in London, who felt the existing devices weren't up to the job. Peter now has several models of the mechanism and is producing a full-size prototype for evaluation by clinical staff.

In the long term, Peter hopes to develop more medical devices; he is also keen to design sustainable transport systems.

I feel excited that I have enough financial backing to take my idea as far as I can

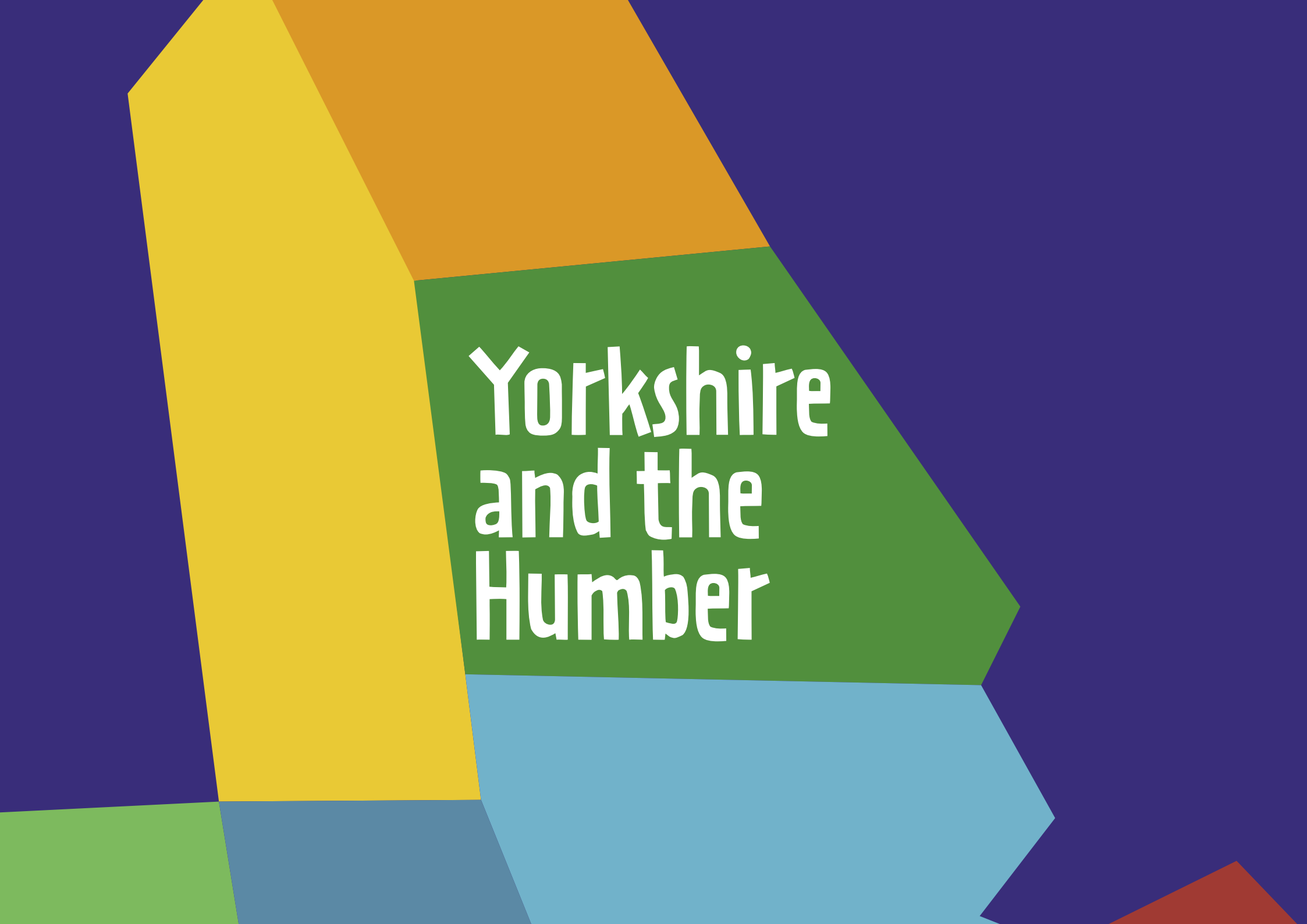
I decided to apply for the Young Innovators programme because I strongly believe in the power of community

Mohammad Sultan

DIGITAL & CREATIVE

As a tutor in schools, tuition centres, and charities, Mohammad Sultan has had the satisfaction of watching students make learning leaps. However, he is acutely aware that many households can't afford tuition. The pandemic has aggravated educational inequalities: throughout lockdown, over 2 million students in the UK did less than an hour of schoolwork each day.

"I am very passionate about helping young students realise the joy of learning and achieve their full potential," Mohammad says. His artificial intelligence-driven learning platform, Edicat, is designed to provide personalised learning to every student. The system makes data-driven recommendations about which concepts each student needs to work on. Learning materials are designed with streaks, reminders, and confidence-boosting messages to keep users motivated. The platform marks answers automatically, saving teachers' time, and provides performance reports to benchmark progress against national learning outcomes.


Yorkshire
and the
Humber

I applied last year and wasn't successful – I saw the setback as an opportunity to further develop the idea further

Adam Derradji

DIGITAL & CREATIVE

Like many people, Adam Derradji has sometimes found it challenging to manage his use of technology. The former bioengineering student from Leeds set out to study why we get so side-tracked by product hooks, social feedback systems, and infinite scrolling. He discovered that micro-emotions – slight pangs of loneliness or boredom – act as internal triggers to foster tech addictions.

Adam's innovation comes at the problem from the opposite perspective: "Instead of getting us hooked on an app or a game, I aim to use UX design and technology to reward us for spending focused time on our goals, help us ignore distractions, and balance our lives. It is a bit of a selfish endeavour – I'm just building something that would have helped me perform better at university."

Adam plans to explore early ideas and test them with students, then create more fleshed-out prototypes. The first product will be a mobile app, but he envisages designing further products to reinforce the concept.

Ella Hopkin

HEALTH

Volunteering with AgeUK in Barnsley gave Ella Hopkin some insight into the challenges faced by older people. That helped to inspire her social enterprise, Motion, which designs interactive exercise programmes to tackle social isolation and promote physical activity.

Ella started out delivering in-person exercise sessions in Sheffield care homes and lunch clubs. During the pandemic, Motion had to adapt its delivery methods, developing an online service. It now plans to scale the programme nationwide.

Besides improving the lives of users, Ella hopes the initiative will help to prevent, delay, and mitigate the onset of chronic illness, reducing the burden on the National Health Service (NHS). "The ultimate long-term goal is to form partnerships with the NHS to deliver Motion classes as a social prescription service, and inform policy change on exercise guidance and access," she says.

I never imagined myself as a Young Innovator – I'm excited by the opportunity to show younger people that they can follow their passions too

Developing a new business can be daunting at times, so it's great to know that an organisation as big as Innovate UK believes we can be successful

Ben White

TRANSPORT

Ben White's business idea was born while he was out climbing in the Peak District with Mike Watson. "Belay partners led to business partners," says Ben.

The pair's business, Sheffield Tribology Services, aims to provide professional friction and wear testing to the rail industry. "Railways are environmentally friendly and socially inclusive, and managing railway adhesion conditions is essential to running a safe and efficient railway," Ben adds. Over the next year, Ben and Mike will build a test rig in a Sheffield workshop and carry out commissioning tests before commercialisation.

Originally a chemistry student at the University of Sheffield, Ben switched to engineering. He joined the university's pre-accelerator entrepreneurship course, which showed him the funding options available: "The Young Innovators programme stood out because of the huge amount of expert advice and mentoring on offer."

West
Midlands

Idil Abdikadir

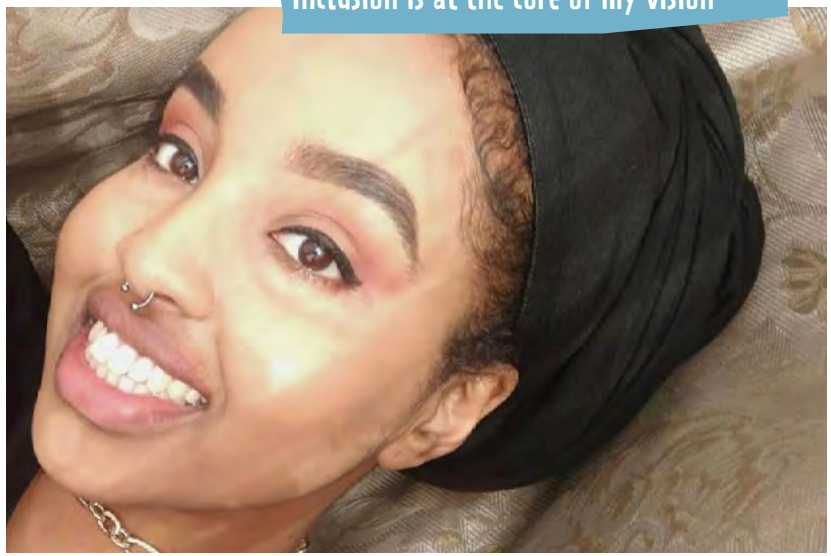
RETAIL

As a young girl wearing the hijab, Idil Abdikadir felt excluded from mainstream conversations about hair and beauty. Her innovation aims to offer new options for hijab-wearing women, recognising their unique hair needs due to their hair often being hidden for much of the day.

An avid tech enthusiast, Idil describes herself as an artist at her core. Her mission builds on the beauty industry's recent shift towards inclusion, led by major brands such as Fenty Beauty and Primark. "This is beyond brilliant, and now I want this shift to extend to the hair, health and beauty industry for women with hijab," she says.

Idil's vision is to enable more girls to feel that they are not ignored but included: "The purpose of my brand isn't just about their hair – it's also about their emotional and mental well-being."

Inclusion is at the core of my vision



I'm chuffed – best thing that could have happened after feeling disillusioned and fearing that my business wasn't going anywhere

Langa Bird

DIGITAL & CREATIVE

Langa Bird grew up in post-colonial Zimbabwe. She watched her grandmother, an artisan designer, build a successful business and create hundreds of job opportunities, amid much poverty and despite a stifling economy.

Langa describes her own business, Ten Streets, as her grandmother's legacy. It will design and manufacture footwear inspired by sub-Saharan Africa. Technical designs were developed in collaboration with a footwear designer. Now Langa is working with leather tanneries and weaving artisans in Kenya, Ethiopia, and South Africa, and with a factory in Italy where the footwear will be manufactured. Her ultimate dream is to build manufacturing capacity in Africa.

Originally attracted to the Young Innovators programme by the prospect of capital to allow her to travel to meet manufacturers, Langa is now equally thrilled at the potential to develop her business through mentorship, guidance, and networks.

Often early-stage businesses are too risky for investors – the combination of mentorship, funding, and the prestige of being a winner helps to de-risk company fundamentals

Anthony Camu

HEALTH

Anthony Camu is on a mission to reinvent mobility for visually impaired people. The design engineering graduate has always been fascinated by creating tools to make people's lives easier. His business, Theia Guidance Systems, aims to replace the traditional white canes with an intelligent device the size of a TV remote.

"There has been very little technological advancement outside of canes because of the inherent complexities of walking on pavements," says Anthony. His device is designed to replicate the functions of a guide dog, such as following paths and avoiding obstacles. It uses a combination of sensors, pathfinding software, and intuitive force-feedback.

Anthony was inspired to apply to the Young Innovators programme by a previous winner, Kate Walker, who works with him at Loughborough University's incubator, The Studio. He plans to raise investment through a pre-seed round in early 2022. His ambition is for Theia to reach a £1 billion valuation: "There's no point trying to start a business if you can't aim high!"

Angel White

DIGITAL & CREATIVE

Final-year business and management student Angel White wants to connect readers with relevant content. Her company, BlogR, is a central platform exclusively for blogs, putting user experience at the forefront.

"We have Instagram for photos, TikTok for videos, WhatsApp for messaging, but no go-to platform for bloggers and readers," Angel says. Her website is now live after a soft launch.

Angel aims to take the enterprise to the next level with the support of the Young Innovators programme. She applied, she says, because "although I'm studying a business degree, it is not taught with entrepreneurship in mind. I didn't want to limit the project's potential due to my own capabilities."

It's nice to know that you have the support of fellow entrepreneurs

East
Midlands

I was thrilled to hear I was going to be part of the 21/22 cohort, and even more pleased to find fellow entrepreneurs who have similar values

Aurélie Fontan

DESIGN

Born in France, Aurélie Fontan grew up in an artistic family who encouraged her creative ambitions. She moved to Scotland at the age of 20, where her studies in fashion design took an experimental turn, branching out into science. Finally, she became a biodesigner, earning much acclaim – including winning the Dame Vivienne Westwood sustainable and ethical award, and showing at London Fashion Week. However, finding herself "jaded and disappointed" with the direction of the industry, Aurélie decided to pursue her own venture.

She co-founded a start-up making UK-grown mushroom leather. Her current innovation focuses on fabric dyeing and colouring, using natural dyes to tackle health and environmental issues. She aims to create locally-crafted, low-impact garments on a financially viable scale. Her developing collection will be tested in a user phase early in 2022, with an official launch during Fashion Week.

Sam Whetton

MANUFACTURING

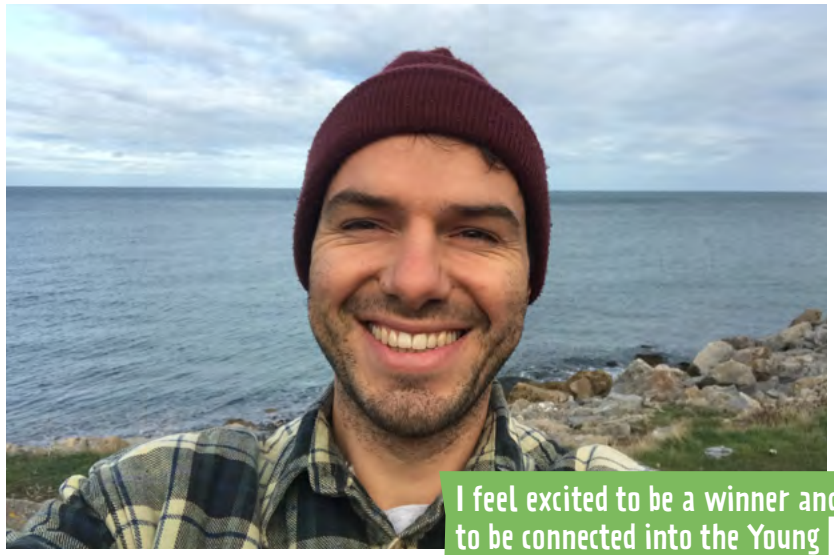
Sam Whetton's mum was a seamstress and pattern cutter, so he always had a passion for cut-and-sew products. While studying product design at university, he partnered with a sustainable mill in Korea, collecting discarded nylon products and turning them into products.

Sam later learned his craft working for international luggage brands. Meanwhile, he developed his own brand, Reika, again using discarded materials – this time recovered ocean waste plastic – and with his mum's help. "We set about prototyping the first samples together, turning our living room into a sample room, relentlessly sampling to create the perfect travel bag using this fantastic material," Sam recalls.

Reika launched via Kickstarter, raising over £19,000 without paid marketing. Now Sam aims to build the brand into a household name for sustainable travel and lifestyle products.

I'm sure I will look back on winning this award as a defining moment of the success of Reika in the years to come

Wales



I feel excited to be a winner and to be connected into the Young Innovators network

Christian Berger

BIOTECHNOLOGY

Growing up in Swansea, Christian Berger spent a lot of time on the coast – swimming, surfing, and foraging the intertidal zone. Now he's devoting his efforts to supporting sustainable coastal businesses in the UK's struggling seaweed farming industry.

Seaweed is grown in seas around the world, using no land or fertilisers, and creating jobs for coastal communities. However, the industry has been slow to take off in the UK. Christian discovered that there were no commercial seaweed seed suppliers. He realised this was a way of applying his engineering background to support food security.

Christian has developed a modular, semi-automated seaweed hatchery. Run entirely off-grid, it can be deployed in remote areas. His first hatchery, in North Wales, supplied 300m of seeded seaweed line to its first customer in the summer. Christian foresees a future where seaweed is widely used in products such as food feed, fertiliser, and pharmaceuticals.

Beren Kayali

MANUFACTURING

Beren Kayali has used experience gained in her Master's in Innovation Design Engineering to tackle a water storage problem. The company she co-founded, Deploy, is creating the first-ever foldable and inflatable concrete water tank. Flat-packed for easy transport, it can be deployed in just 24 hours.

"Water tanks are the most tricky and expensive part of water infrastructure, and this need has been neglected for rural areas," Beren explains. Conventional concrete tanks require 14 tonnes of material and take up to three months to build, while factory-made plastic tanks are not durable.

Deploy is now working on its manufacturing facility and preparing pilot products for farmers and the agri-tech sector. Beren sees potential for sales internationally as well as in the UK.

I don't believe in limits – with a great team and passionate hard work, anyone can achieve what seems to be impossible

Abbie Lawrence

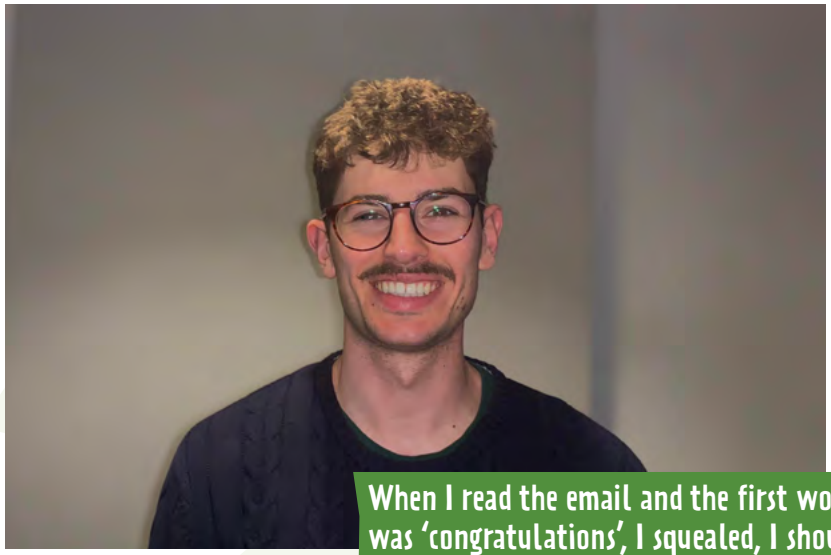
INFORMATION & COMMUNICATIONS TECHNOLOGY

Big corporations invest millions to get an understanding of their customers' purchasing decisions. For other organisations, focus groups and online questionnaires are the standard methods. Abbie Lawrence aims to disrupt the industry by giving corporation-level insights to companies of all sizes, using a simulated environment.

Abbie developed, tested, and commercialised her simulated environment during her PhD, which set out to increase sales for small and medium-sized Welsh firms. The simulated environment consists of a large, blacked-out room with a wrap-around screen and soundscape. Lighting, airflow, and temperature can be controlled, and actors and physical props added. The system allows for multiple streams of data to be gathered, underpinned with real-time eye tracking to understand buyer preferences.

In the longer term, Abbie aims to establish multiple sites for her business, Consumer Insights Lab, including mobile facilities. She also hopes to develop a patent for consumer insights data collection.

I look forward to learning more about how to be a good leader, how to scale and expand the business, and how to establish my company across multiple industries



When I read the email and the first word was 'congratulations', I squealed, I shouted, and then I called my mum in tears

Matthew Richmond

HEALTH

During lockdown, Matthew Richmond turned to mindfulness apps in search of calm. However, he found the pre-recorded scripts impersonal. Rather than offering focus, they were often distracting. The graduate in financial maths from Cardiff University came up with an idea for a different type of mindfulness app.

Measurtation records the user's breathing, and provides analysis of trends in breathing cycles, helping the user understand their meditation. It will be provided through an affordable subscription model. The concept is currently at product development stage, and Matthew is seeking a co-founder to help develop the proprietary software.

Matthew came across the Young Innovators programme just two weeks before the closing deadline for applications. He spent every evening working on his pitch with friends and family.

London

Young Innovators support will have a critical impact on the future success of Weffan

Graysha Audren

SUSTAINABILITY AND CIRCULAR ECONOMY

Graysha Audren is an award-winning textile designer and graduate of Central St Martins in London who sees waste as a design flaw. She founded her business, Weffan, to explore solutions to the daunting environmental impacts of the fashion industry.

Weffan develops fully-fashioned 3D woven garments in one step – with the fabric and garment woven simultaneously, on an automated jacquard loom. This shortens production steps, minimises fabric waste, and creates a more transparent manufacturing supply chain.

Weffan's current focus is on developing trousers, since Graysha believes the solutions for sizing, fit, and materials will be transferable to other types of clothes. She will experiment with various prototypes, working alongside a support team of skilled technicians and researchers. Her long-term aim is to offer a full range of 3D woven garments with a localised, transparent, automated, and sustainable production system.

Thomas Constant

AGRI-FOOD

Thomas Constant is convinced that insects are key to the future of humanity. Thomas has an ambitious vision for his business, which aims to harness the protein potential of insects. He predicts that by 2024, his start-up, BeoBia, can cut global CO_2 production by the equivalent emissions of 200,000 flights from New York to London.

Growing up in the countryside, Thomas had always been fascinated by nature and sustainability. When he went to Loughborough University to study industrial design and technology, he was able to marry those passions with his design skills.

"Everything changed when I learned the fantastic benefits of insects, which require a fraction of the land, water and resources compared to traditional protein sources," says Thomas. He went on to create his first insect-growing pod: a closed-loop system that turns users' food waste into protein and plant fertiliser.

It's an honour to win this award and be seen as a UK start-up on the rise

I was honestly buzzing to receive the Award

Jonathan Cottom

DESIGN

A trained accountant with a Master's in maths, Jonathan Cottom always assumed he would be an entrepreneur like his grandfather, who started a pie-making business in St Helens in the 1940s. Jonathan was just waiting for the right idea. It came to him when he found himself frustrated at being unable to clean and maintain his reusable water bottle without creating additional waste or following a complex cleaning ritual.

Jonathan came up with a sketch for an easy-clean reusable bottle. He pitched his idea to designers, one of whom he has been working with ever since. Breakbottle was successfully funded via Kickstarter, with the first production run due to deliver a finished product in the summer.

Breakbottle also has a social purpose: Jonathan has partnered with the Pump Aid charity, ensuring that each bottle bought will fund a week of clean water for communities in Malawi.

Cian Duggan

BIOTECHNOLOGY

As the world's population builds, food security becomes a pressing issue. Cian Duggan's ambition is to help achieve the enhanced food production required, while using less land and resources.

The plant scientist has spent seven years at Imperial College London, researching how the plant immune system works and how diseases overcome it. Now he has co-founded a biotech company, Resurrect Bio. It aims to engineer crops that emulate their wild counterparts in defending themselves from disease – reducing yield losses and the need for chemical pesticides.

The newly-formed company will research innovations based on breakthroughs from its partners in The Sainsbury Laboratory, Norwich.

I always wanted to start and lead a business, but I needed the support and push to take the next step

I am ready to lead my idea, but I need the guidance the Young Innovators programme provides to help me on my way

Chantelle Edwards

RETAIL

Chantelle Edwards is driven by a desire to create new opportunities for black women – and black mums in particular. Her entrepreneurial passion is also fired by personal experience. Out shopping after having a baby, she felt "lost and irrelevant" as she failed to find any suitable modern lingerie on the shelves. That experience set her on course to develop maternity bras that would complement a variety of skin tones, sizes, and curves.

Chantelle is now in the early stages of designing a prototype, based on feedback from her target audience. An important element will be sustainability. Given that many mums stop using maternity lingerie after a while, Chantelle aims to make her products biodegradable. "That's less UK landfill – and more opportunity for mums in certain communities to get fashion items they might never have been able to afford," she says.

Anastasia Georgievskaya

INFORMATION AND COMMUNICATIONS TECHNOLOGY

"You don't have to drop out of university or quit your job to start a business," says Anastasia Georgievskaya. She has been kicking her business idea around for years, working on it for a few hours a month, since coming to the UK from her native Russia at 16 to pursue a scientific career. The Young Innovators programme has given her the chance to realise her concept of scent simulation technology.

Anastasia's business, Scentient, aims to create a device that emits scents in virtual reality. It would be used to support training of military and emergency personnel. While simulation training already exists, it omits the sense of smell, Anastasia explains: "Smell can either bring useful information or be very distracting – it is important to practise both."

Until now, cost has been a barrier, but the award will allow Anastasia to buy the parts and equipment she needs to develop her idea.

Meeting other winners and speaking with our Innovation Champions inspires me to power through any difficulties

As a first-time founder that's creating an entirely new product and sector, I know I need all the help and support I can get

Matthew Isaacs

SUSTAINABILITY & CIRCULAR ECONOMY

Matthew Isaacs aims to bring climate transparency to the food sector. The London-based entrepreneur has developed a product that calculates the carbon footprint of food. It allows brands to add carbon labels to their products and menus, and helps consumers make more sustainable food choices.

Matthew studied law, but says he found himself wanting to improve the law rather than apply it. He brought this desire for action to his own company, My Emissions. He raised investment from family and friends and built an eight-strong team. The business already works with national companies such as restaurant chain Camile Thai, plant-based fast-food chain Clean Kitchen, and vegan chocolate brand Buttermilk.

Matthew hopes joining the Young Innovators programme will help him grow the reach of the business and engage with multiple stakeholders, from consumers to government.

Natalie Kerres

MATERIALS

How can design support quality of life as people live longer? That was the question Natalie Kerres set out to address in her thesis for the Global Innovation Design programme at Imperial College London and the Royal College of Art. Natalie took inspiration from nature, particularly the way animal scales offer physical protection. The result was her company, SCALED.

Natalie's idea is a material innovation that provides for full mobility and flexibility, as well as protection from accident. A SCALED patent is pending in the UK, the EU, and the United States, with the first product – a bespoke wrist guard for professional athletes – scheduled to launch early in 2022.

With a background in fine jewellery design, followed by study in industrial design at the University of Applied Arts in Vienna, Natalie is particularly pleased to have her achievements recognised: "It underlines the importance and power of interdisciplinarity."

I feel very honoured to be selected as a Young Innovator and be part of this extraordinary cohort of young visionaries

I'm looking forward to making more connections, broadening my network, and gaining advice and expertise from business leaders across industries

Beth Kume-Holland

DIGITAL & CREATIVE

Beth Kume-Holland is a passionate advocate for breaking down the barriers that limit opportunities for all. That is partly due to her personal experience of becoming unemployed because of her disability. While the pandemic has made working patterns more flexible, Beth is concerned that the problem of people being excluded from the workforce is actually worsening.

Patchwork Hub, the business she has founded, sets out to connect employers with skilled people looking for work opportunities outside the conventional 9 to 5. The platform has already placed people into paid work. Beth is now extending it to embrace freelance and internship opportunities. She says: "I am determined that those in the 'hidden talent pool', from disabled people, to carers, and parents, should be integrated into the future model of work with a mainstream solution, rather than being a separate category added on at the end."

Letisha Larmond

FOOD & DRINK

Letisha Larmond was born with only one kidney. Her dad insisted she have the best possible diet to stay healthy; so together they experimented with plant-based recipes. As Letisha grew older, she noticed how often other people complained about health issues such as feeling tired or bloated. She realised many of these complaints could be linked to digestive health.

This was the beginning of an obsession with gut health that led directly to her business, Frooted. It offers smoothies in the form of frozen cubes, which can be quickly blended with hot water. "My plan is to transform the country's digestive health, one delicious smoothie cube at a time," says Letisha. The business is gearing up for a summer 2022 launch.

As an active youth advocate with multiple foster siblings, Letisha is particularly excited about the potential for the Young Innovators programme to help her become a role model for younger people.

Through the Young Innovators programme, I can become a relatable role model for other young people, who also have limited finances and resources, but a desire to make their dream become a reality

The Young Innovators programme will really allow us to grow our business at a much quicker rate

Ashley Ling

RETAIL

During lockdown, Ashley Ling rediscovered an old passion for jigsaw puzzles. They offered a way to relax and practice mindfulness. But the range was unimpressive: "Most puzzles are boring and feature the same countryside landscapes and steam trains," he says. "We wanted to reinvent an old classic, by turning them into pieces of art you'd want to frame."

The 26-year-old has just marked the first anniversary of his business, Piece and Quiet. It offers a range of 13 jigsaw designs created by different artists, who receive a share of each sale. The modern designs come in a display-worthy tube and a reusable tote bag.

Ashley's passion for entrepreneurship was seeded at 16, when he helped pack orders for a family friend's sports ecommerce business. Later he was employed by the firm's headquarters in the United States and then became a management consultant: "I've worked in large corporates since, and they haven't come close to matching the work ethic, shared sense of responsibility, and fun of a fast-moving start-up."

Lilidh Matthews

RETAIL

Even as a plant buyer for the UK's biggest garden centre chain, Lilidh Matthews found it challenging to grow plants on the balcony of her London flat. She lacked space to pot her plants and struggled to carry 60-litre compost home on public transport. Then there was plant care: "Balcony decking means that neighbours below will hate you whenever it's time to water your plants," says Lilidh.

Her business, Finding Roots, offers help to the many urban flat-dwellers who dream of a garden. Customers sign up to a micro-garden subscription. Ready-planted containers, specially designed for small spaces, are then delivered to their door every season.

"A home with a garden is the dream of 67% of Londoners," Lilidh points out. She is looking forward to the Young Innovators programme's sessions on public relations and media topics, so she can capitalise on the peak consumer interest in plants in early spring.

I am incredibly proud to sit among some extraordinary talents and businesses that are changing the world for the better

Ella Merriman

DESIGN

Women's underwear falls into two types – comfy and sustainable, or sexy and synthetic. London-based designer Ella Merriman is determined to change this. She set out to design cotton underwear that was not purely functional: "I believe that underwear has the power to make women feel confident and beautiful, and that no one should have to compromise on this for the sake of their health," she says.

After working at small design studios across Europe, she spent 18 months developing her own ethically-sourced, comfortable, and flattering underwear. MERRI Intimates was fully funded within two hours of launching on Kickstarter and raised three times Ella's original goal.

She sees the Young Innovators programme as a promising source of support for a female-led start-up: "Venture capital investors are overwhelmingly male. The Young Innovators grant feels like a way for me to be in control of my business' journey."

After being unsuccessful in 2020, it felt like an even greater achievement to join the Young Innovators programme on my second attempt

Winning this award provides extra motivation to carry on through the hard times

Liam Murphy

HEALTH

While studying product design in Brighton, Liam Murphy practised mindfulness every day. He felt the benefits and realised the practice would have been invaluable to him when he was younger. That was the trigger for a concept to make mindfulness fun for kids.

Liam's product, Stix, is designed to enable children to take control of their mental wellbeing. A screen-free electronic device guides the child through fun activities, giving visual, haptic, and auditory feedback. Progress and rewards can be reviewed on an app, illustrated by an interactive cute 'monster' character.

Ten advanced Stix prototypes are being tested by families. Their feedback is providing useful data about how children interact with the product and what features might improve the experience. Liam plans to launch Stix through crowdfunding and sees the Young Innovators programme as an opportunity to gain further support. "Having an Innovation Champion guiding us through 2022 will be extremely valuable," he says.

Maxwell Munford

HEALTH

Entrepreneurship is in Maxwell Munford's blood. He grew up in a small Hertfordshire town, where many of his relatives ran their own small businesses. When he was awarded an Arkwright engineering scholarship in sixth form, he began to form a passion for solving real-life problems through science and engineering. Today, his vision is to bring innovation from the lab to the hospital operating room, to help patients with knee replacement surgery.

Maxwell's research involved speaking to over 100 patients and more than 60 surgeons around the world. Their "amazing insight and feedback" have informed his prototype implant. "Unfortunately, existing implants haven't really changed in the past 40 years, and contribute to bone loss, implant failure, and later complications," he says. "My patented 3D printed implants have been proven at Imperial College London to address these problems by stimulating long-term bone growth." There are potential benefits for National Health Service (NHS) costs as well as patients' quality of life.

It will be amazing to be able to lead a deep-tech start-up and inspire future Young Innovators

Not having a business background, I felt I really could use the support to push this innovation forward

Seyed Nasrollahi

DIGITAL & CREATIVE

Seyed Nasrollahi has three passions. One of them is physics, which he studied at Imperial College and the University of Cambridge. The others are games and machine learning. He has combined all three in the company he founded, Unifiq Games, which is developing a video game with a social purpose.

Unifiq's game aims to enhance STEM (science, technology, engineering, and mathematics) learning for young people, and female players in particular. The UK is facing a STEM skills crisis due to under-representation, poor perceptions, lack of interest, and low school attainment. Seyed believes his product can help address the issue.

Having heard positive things from previous Young Innovators about the level of support provided by the programme, Seyed hopes his selection will help him achieve his ambition for Unifiq: "to become one of the most innovative game studios in the UK, creating a digital playground based on the laws of physics down to the atom."

Emmanuel Oyemade

DESIGN

Emmanuel Oyemade wants to rescue workers whose productivity suffers because their workspaces are cluttered. The final-year product design student at Sussex University believes the desk organisers currently on the market only add to the problem: "They are bulky, lack aesthetical taste, and actually take up more space than they save."

Emmanuel's solution, Tower, reimagines the traditional desk organiser to make use of the empty vertical space above our desks. His business, Modomise, now has a fully working prototype. Next, he aims to redesign the product for manufacture, and then extend his product range.

"In a few years' time," he says, "I would like Modomise to be known as the go-to staple of high-quality desk organisation products." In the process, Emmanuel will have realised his childhood dream of being an inventor.

The support from my Innovation Champion will be priceless

I want to grow into a leader I can look up to

Cornelius Palm

HEALTH

As a teenager, Cornelius Palm lived with chronic abdominal pain. He is frustrated that other young people continue to suffer as he did. "Chronic pain requires continuous and complex self-management that often fails," he says. "It overwhelms young patients and frustrates doctors."

The business Cornelius founded, Happyr Health, aims to change that. The Happyr app offers easy-to-use treatment plans, supports lifestyle changes, and provides tailored behavioural exercises. Migraine is the first condition supported by the app.

Cornelius was inspired by his teenage experiences, but he also draws on a wide background in health and entrepreneurship. He worked as a paramedic in Germany for five years, studied entrepreneurship at Cambridge, and gained hands-on experience through one failed venture and then as Chief Operating Offier of a successful high-growth start-up.

Joanna Power

DESIGN

Design guru Sir James Dyson is one of Joanna Power's idols. She's emulating his pioneering spirit in her creation of a washing machine that uses filtered shower water. The device's removable water tank is placed on the shower floor during showering, then returned to its base for use in the laundry process.

Joanna formed her company, Lylo Products, after completing her degree in product design engineering at Brunel University. She was inspired by the world's shrinking reserves of water and her passion for the environment.

Lylo has already won other awards and Joanna now aims to run her initial pilot with a university before launching the washing machine on the market. She hopes that will just be the start: "I would love to have multiple products that have a meaningful impact on the climate crisis."

I applied for the Young Innovators programme to inspire other young female designers and engineers

I feel honoured to have won

Robert Quinn

INFORMATION & COMMUNICATIONS TECHNOLOGY

As a child, Robert Quinn's ambition was to be a successful inventor. Now he's on the verge of achieving it, using skills gained through a PhD in mechanical engineering and an honorary affiliation with the electrical engineering department at Imperial College.

Robert is currently working full time on his tech start-up, Makesense Technology, which aims to harness technology to support blind people. His prototype hand-held device is being evaluated in a series of trials with volunteers in collaboration with Bravo Victor, previously Blind Veterans.

"Emerging computer vision technology can identify objects and make inferences about environments which, in principle, could benefit blind people," Robert says. "However, existing non-visual interfaces do not adequately communicate useful information derived using this technology. Building on breakthrough research, we have developed a device that is effective at communicating 3D spatial information to blind people."

This award will give investors and grant bodies confidence in my research and business proposal

Amelia Seifalian

BIOTECHNOLOGY

Amelia Seifalian is a junior National Health Service (NHS) doctor with plans to train in obstetrics and gynaecology. Meanwhile, she hopes to revolutionise women's health with her innovation.

Pelvic organ prolapse affects half of women worldwide. A previous, unsuccessful treatment using a polypropylene-based mesh resulted in a ban. Amelia is in the early stages of researching a substitute product that would be made using graphene-based nanocomposite material. At the same time, she is proposing stem cell technology to overcome previous issues with the mesh treatment and provide a potential cure for the condition.

Amelia already has a track record in the application of nanotechnology in medicine, having published over a dozen papers in the field. Given success with her proposed membrane, her goal is to go on to develop further products with the potential to revolutionise healthcare.

Tendai Taruvinga

FOOD & DRINK

Tendai Taruvinga studied architecture at Lincoln and Sheffield and went on to work in construction. But in 2019 he stepped away from the sector to rethink his future. That gave him time to reconnect with his passion for cooking. He identified a gap in the market for bringing African cuisine to the UK mainstream. "I realised that African food is viewed by many as a niche product and is relatively inaccessible to most people in this country," he explains.

Tendai's business, Veafy, now delivers tasty, vegan-friendly ready meals. Having started in 2020 with two recipes, he widened his range to nine within a year, each designed to showcase the culinary heritage of a different region – from a west African jollof to a Moroccan tagine. Over the next year, Tendai plans to scale the business up, moving from domestic to commercial kitchen premises.

I hope to inspire others to pursue their passions

Rebecca Thompson

TRANSPORT

Rebecca Thompson caught the travel bug early from her parents. Her dad entered competitions to win trips away, often successfully, and her mum managed to extend work trips, bringing the family along. As an adult, Rebecca has travelled to Southeast Asia, and Central America. But she became increasingly concerned about the environmental effect of her travels and decided to stop flying whenever possible. Her business, Ecosy Travel, is dedicated to helping others travel sustainably as well.

The company will be a fully-integrated booking site for environmentally-friendly transport and accommodation – starting with UK staycations, then expanding into Europe, and other destinations. Rebecca started working on the idea in 2018 but had to pause her efforts to go back to full-time employment. Joining the Young Innovators programme freed her to dedicate the time to launch the business in earnest. She is particularly keen to learn about financing options and to benefit from training in personal and business branding, media, and PR.

There are so many amazing people on this programme – I'm really excited to see a community form, where we can all learn from each other

I have already learned more than I did within the first six months of launching

Jamie Tong

CONSTRUCTION

After his family moved from England to Singapore, Jamie Tong watched in awe as the city-state's impressive structures were erected almost overnight. It was the start of his love affair with engineering. But it wasn't until he was 21 – after years of travel, and jobs in various sectors – that he chose construction as a career.

Jamie is currently undertaking a part-time degree while working for Sir Robert McAlpine. During a year-long scholarship with the Worshipful Company of Constructors, he says, "I witnessed the dangers of excavations first-hand on site, and I couldn't believe the outdated methodologies being used."

Jamie is developing a system to make working around live services more efficient. He believes it has the potential to provide a safer work environment and could also generate considerable cost savings for the industry. He sees the Young Innovators programme as a way to fast-track his idea and his company, Scannetix: "I realised its value isn't in the money but in the education and guidance," he says.

Rui Xu

MATERIALS

Rui Xu's breakthrough will allow consumers to see at a glance whether the food they buy is safe to eat. Her London-based company, FreshTag, uses a novel pH-sensitive colour coding solution that accurately indicates real-time food freshness. Currently in the early research and development stage, it could be used as biofilm packaging or ink on labelling.

A material designer, researcher, and graduate of the Royal College of Art in soft systems, Rui works at the intersection of food science, biology, and materials design. Her innovation has implications for food science and technology, food retailing, and intelligent packaging. It could cut food waste by eliminating the need to rely on arbitrary 'use by' dates.

The Young Innovators Award will allow me to develop my idea, make it a success, and help myself while benefiting others

South
East
England

Tailored business support is providing me with the confidence that I will be able to develop Tech Balance successfully

Ryan Bell

DIGITAL & CREATIVE

Shortly after Ryan Bell took up a role in the space industry, as an Earth observation engineer, the first lockdown began. The leisure time he would usually have spent socialising, playing football, or going to the gym was suddenly filled by gaming and social media. Alarmed by the effects of this device-oriented lifestyle – stress, low self-esteem, lack of empathy, and loss of focus – Ryan 'unplugged' completely for two weeks and took time to reflect.

Ryan's innovation, Tech Balance, is designed to help students understand their relationship with technology and to get their tech-life balance right. His educational service is designed for digital natives: "Unlike other companies that see adults try to solve a problem they haven't lived through, Tech Balance is driven by students with first-hand experience of what really works," he explains. Users will take part in cohort-based workshops designed to encourage interaction, collaboration, and the right amount of accountability.

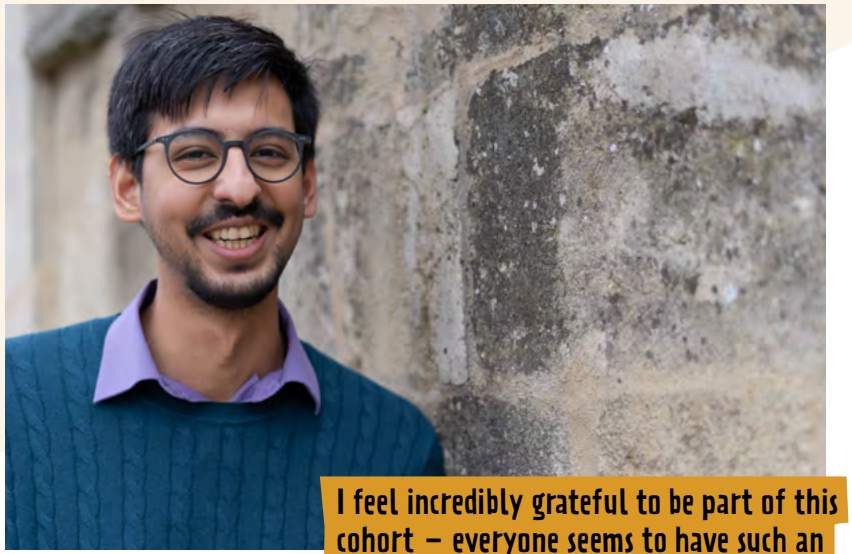
Mihir Sheth

HEALTH

COVID-19 focused global attention on the need to provide enough ventilators for seriously ill patients. Mihir Sheth had a different perspective: he was frustrated that no one was considering how to get patients off the ventilators. After six days on a ventilator, patients can lose up to 32% of their respiratory muscle strength and up to half their total ventilator time can be spent learning to breathe independently again.

An electrical engineering graduate, Mihir already had extensive experience of creating simple-to-use medical devices for Ghana, Kenya, and the UK. He spoke to doctors, physiotherapists, and nurses to determine the key features required to resolve the ventilator issue. He then paired up with a consultant anaesthetist to develop a non-invasive device that works in tandem with a ventilator to keep the patient's muscles engaged from the first day of ventilation.

Mihir's company, Inspiritus Health, is now working with clinicians to collect extra evidence on his product's effectiveness.



I feel incredibly grateful to be part of this cohort – everyone seems to have such an amazing story

My success has helped me to get rid of that 'imposter syndrome'

Kieran Witt

DIGITAL & CREATIVE

Kieran Witt works in the financial services industry, where his proudest achievement was launching the UK's first credit card designed for the visually impaired. His own innovation targets a different market: it is a digital service that makes it easier for couples to find their first home. He came up with the idea after experiencing how difficult and time-consuming it was to search for a property online together with his partner.

While Kotini is initially focused on couples buying their first home, Kieran believes it could also prove invaluable for people with disabilities to find a property with remote support from family or friends. Ultimately, he hopes it will corner the market for group property searches.

Kieran plans to use the Young Innovators programme to deliver a market-ready prototype. He also sees it as a way to give back to people who, like him, are from less well-off backgrounds – he was homeless for some time in his teens and doesn't have a university education.

South
West
England

I feel motivated knowing that others share my vision of fighting climate change

Albie Baker-Smith

SUSTAINABILITY & CIRCULAR ECONOMY

Albie Baker-Smith has always loved building things or taking them apart and trying to put them back together. His discovery of building software at the age of 14 added a new dimension. Albie loved being able to create things using only his imagination and an old computer. It was just recently that he realised he could use these skills to help combat climate change.

Planting trees is one of the most effective tools to start drawing down CO_2 from the atmosphere. "There are so many small pieces of land which aren't currently being used, so I'm developing a software platform to help anyone fight climate change by growing trees on these 'hedges and edges'," Albie explains. His business, CarbonRoots, is currently running a small pilot project in Ghana. It's also talking to UK companies seeking to offset their carbon footprint.

Joe Garrett

ENERGY

Joe Garrett wants to help households reduce their carbon footprint by generating electricity from their roofs. His product, AuraGen, is a wind turbine designed for domestic use.

The idea struck him while working during summer holidays as a building labourer for his dad. While at height on scaffolding, he was struck by how much stronger the wind felt than at ground level.

A mechanical engineering student at the University of Birmingham, Joe came across vertical axis wind turbines during his studies. His own version, currently being perfected in conjunction with the university's Final Year Project, features a new aerofoil design to improve performance. Joe's ultimate aim is to manufacture his product for the consumer and business markets.

The Young Innovators programme gives an all-encompassing range of support to tap into

It's a privilege to be part of this programme – I want to keep on grafting as much as I can to make the most of it

Benjamin Gibbons

CONSTRUCTION

Growing up, Benjamin Gibbons never saw his future as an entrepreneur: "I was completely disorganised and knew nothing about business." But later, living in Nepal while working for an international charity, he often found himself in unsafe housing. This was the origin of his business, Circular11, created with co-founder Connor Winter.

The company aims to raise the standard of housing across South and Southeast Asia. It will produce building materials that are pre-designed to slot together in a way that allows non-specialists to meet international safety standards.

Circular11 set up an extrusion line in Dorset to learn how to manufacture the brick. Formed from a mix of plastic waste and the by-products of industrial and agricultural processes, the material has almost zero embodied carbon. To fund their research, the partners have also created a side-business, turning local plastic waste into garden furniture.

Eva Gilder-Hodgson

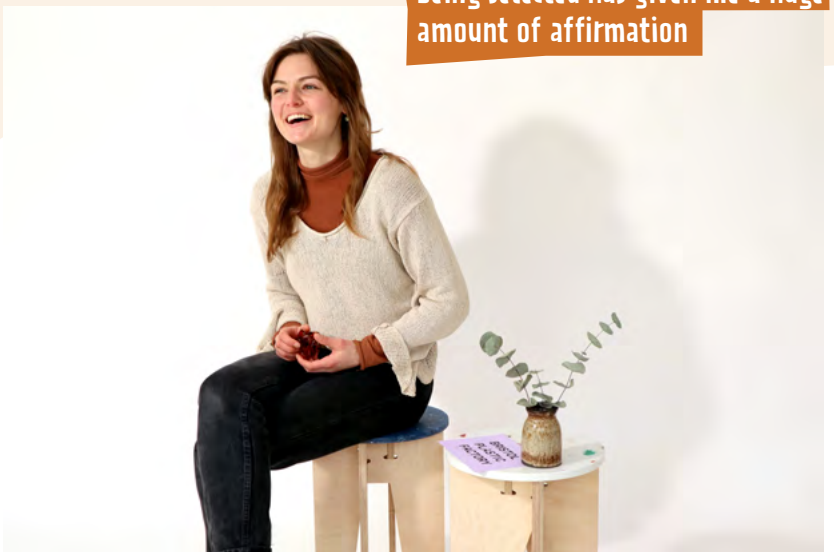
DESIGN

Eva Gilder-Hodgson's business, Bristol Plastic Factory, fashions furniture and homeware products out of shredded and heat-pressed bottle lids. Eva was first introduced to recycled plastic when she worked as a graphic designer and maker on branding and interiors projects. "I immediately fell in love with the surface design and narrative of the material," she says.

80% of UK plastics are thermoplastics, which means they can be recycled. "Extraordinarily, we export huge quantities of this valuable plastic waste abroad, because we don't have a manufacturing market model which allows us to take responsibility for our throwaway culture," says Eva.

She has developed product prototypes which are 100% recyclable and manufactured in modular components, allowing for repair of individual parts. Eva has joined forces with a local community workshop to fabricate recycled sheets made from post-consumer plastic. By setting up community drop-off points and recycling systems, she hopes to spark a circular design process in Bristol.

Being selected has given me a huge amount of affirmation



I feel really lucky to have this support network behind me. I have lots to learn!

Antonia Gillett

SUSTAINABILITY & CIRCULAR ECONOMY

From a young age, Antonia Gillett enjoyed fly fishing while on regular holidays in the Scottish Highlands. Later, as her dad's 60th birthday approached, she searched for a fish leather wallet as a gift but struggled to find one. She decided to try making one – skinning a fish and watching a YouTube video to find out how to tan it. It wasn't a success: when she hung the skins up to dry, ants attacked them.

After COVID-19 struck, she had time to try again. "With little else to do, I tanned the skins of the salmon fillets we had for dinner, using willow bark which is a by-product of the cricket bat industry," she says. Her tanning improved, and six months later she proudly presented her dad with a salmon leather wallet.

Now she is scaling up production through her business, Felsie. Sustainability is at its heart: "Huge numbers of salmon skins are currently thrown in the bin," says Antonia. "I'm committed to using sustainably-sourced British materials and keeping all tanning and making within the UK."

Jess Strain

DIGITAL & CREATIVE

In her final year of a textile design degree at Loughborough University, Jess Strain began researching the social and environmental impact of textile materials. She often struggled to find information on where a fibre had been grown, spun, woven, and processed. This was mirrored when she went shopping, with stores offering no details on the supply chain behind their products.

Jess's own products, including summer hats, tote bags, and soft furnishings, will offer buyers complete transparency. She plans to use waste fabric, dyed with locally-foraged plant matter. Her first product – face masks naturally dyed with ferns foraged from Dartmoor – sold out.

With the help of her Innovation Champion, Jess now aims to define her manufacturing process, prototypes and reporting methodology. "I want to open the discussion with consumers and enable them to demand more of the high street giants," she says.

It feels incredible to know someone has read my business idea and given it a real vote of confidence

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